

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte GLENN A. POMERANTZ

Appeal No. 2002-0116
Application No. 09/457,730

ON BRIEF

Before FRANKFORT, STAAB, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 21 and 23 to 30.¹ Claims 31 to 40 have been withdrawn from consideration under 37 CFR § 1.142(b) as being drawn to a nonelected invention. Claims 1 to 20 and 22 have been canceled.

We REVERSE.

¹ Claims 21, 23 and 29 were amended subsequent to the final rejection.

BACKGROUND

The appellant's invention relates to a method for producing a fixture for holding a workpiece in a machining apparatus. A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

Claims 21 and 23 to 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over the Admitted Prior Art shown in Figures 1-4 of this application and discussed on pages 1-3 of the specification (the Admitted Prior Art) in view of U.S. Patent No. 6,017,025 to Balz et al (Balz).

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejection, we make reference to the answer (Paper No. 14, mailed April 20, 2001) for the examiner's complete reasoning in support of the rejection, and to the brief (Paper No. 13, filed March 15, 2001) for the appellant's arguments thereagainst.²

² The rejection of claim 29 under 35 U.S.C. § 112 made in the final rejection was withdrawn by the examiner (answer, p. 2).

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art, and to the respective positions articulated by the appellant and the examiner. Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims under appeal. Accordingly, we will not sustain the examiner's rejection of claims 21 and 23 to 30 under 35 U.S.C. § 103. Our reasoning for this determination follows.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Claim 21, the only independent claim on appeal, reads as follows:

A method for producing a fixture for holding a workpiece in a machining apparatus, comprising:

forming at least one first opening in a disk of material, said first opening having at least one flexible side for elastically holding said workpiece; and forming a slot adjacent each of said at least one flexible side for allowing said flexible side to flex, wherein said slot comprises a second opening distinct from said first opening and said slot has a length approximately equal to that of said flexible side.

The Admitted Prior Art (see Figures 1-4) teaches the use of three fixtures 30 for holding six workpieces 40 in a machining apparatus. Each fixture 30 includes two four-sided openings 31. Each opening 31 holds one workpiece 40.

Balz's invention relates generally to a retainer for accurately positioning and retaining electronic components. The component retainer shown in Figure 4 has a component receiving opening 30b defined by an inner sidewall 31b which consists entirely of compliant material 14 having inwardly extending substantially "doughnut" shaped contoured portions 22 with holes 24 therein. During insertion of a component 20, doughnut shaped portions 22 compress and holes 24 collapse (i.e., become more oval) as indicated by arrow 25 to accommodate variations in dimensions of the component within normal part size tolerances. As a secondary benefit, holes 24 permit the inwardly extending portions 22 to shift laterally or "roll" as indicated by arrow 26 without causing a significant amount of torque thereby precluding distortion of the position of component 20. The movements of doughnut-shaped portions

22 provide the required resiliency when a substrate piece or component at the nominal size or above is retained in component receiving opening 30b. Balz teaches (column 7, lines 30-41) that

[o]ther configurations of the inwardly extending contoured portions 22 may be utilized. For example, and referring to FIGS. 7A-7G, inwardly extending contoured portions may have a semi-circular shape 72, a gaussian (haystack) shape 74, a square shape 76, a triangular shape 78, a truncated triangle shape 80, an opposed-flexures configuration 82, an asymmetrical flexure configuration 84 and a B (pi) shape configuration 85. Preferably, the various contours of compliant material 14 forming the inner sidewalls of the component receiving openings described above are formed by a laser cutting process implemented after compliant material 14 is inserted between metal plates 12 and 16.

Figures 5 and 6 of Balz show retainer configurations wherein only portions of the inner sidewalls of the component receiving openings consists solely of compliant material 14 to "bank" component 20 against the portions of the inner sidewalls that do not consists solely of compliant material 14. Figure 9 shows an alternate embodiment of the "corner justification" configuration of Figure 6 wherein contact points or "banking bumps" 54 are formed on portions 44 and 46 of inner sidewall 31. Figure 10 illustrates another embodiment of the component retainer wherein openings of various sizes and shapes are formed at predetermined locations in the compliant material 14 (the top portion of sidewall 31f) in order to modify the hardness or the compliancy of compliant material 14. Although Figure 10 shows substantially circular and rectangular shape openings 56 and 58,

respectively, the openings can have other shapes such as (see Figures 11A-F) a substantially square shape 60, oval shape 62, diamond shape 64 and a bow-tie shape 66.

From the above teachings of Balz, we conclude that Balz teaches forming a four-sided first opening (30b, 30 c, 30d) in a disk of material 12, the four-sided first opening having at least one flexible side for elastically holding a workpiece (Figure 4 shows four flexible sides, Figure 5 shows three flexible sides and Figure 6 shows two flexible sides); and forming a second opening distinct from the first opening adjacent each flexible side for allowing each flexible side to flex, wherein the second opening may be either a circle (24 in Figures, 4, 5 and 6) or a slot/oval (Figure 7H). However, the slot/oval opening has a length substantially less than the length of the flexible side.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of the Admitted Prior Art and claim 21, it is our opinion that the differences are as follows: (1) the first opening having at least

one flexible side for elastically holding said workpiece; (2) forming a slot adjacent each flexible side for allowing each flexible side to flex, wherein each slot comprises an opening distinct from the first opening; and (3) each slot having a length approximately equal to that of the flexible side.

With regard to these differences, the examiner appears to have determined (answer, p. 4) that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have provided the fixture of the Admitted Prior Art with at least one flexible side as suggested and taught by Balz in order to securely hold the workpiece during machining operations.

The appellant does not dispute the obviousness of combining the teachings of Balz's component retainer into the fixture of the Admitted Prior Art. Instead, the appellant argues that the resultant fixture and method for producing that fixture does not teach or suggest the subject matter of claim 21. We agree. In our view, Balz teaches and suggests modifying the fixture of the Admitted Prior Art by providing on two, three or all four sides of both openings 31 of fixture 30 compliant material having inwardly extending B (pi) shaped contoured portions. However, the slot/oval opening defined by each of the inwardly extending B (pi) shaped contoured portions has a length substantially less than the

length of the flexible side. Thus, the claimed limitation that "said slot has a length approximately equal to that of said flexible side" is not met by the combined teachings of the applied prior art.

In our view, the position of the examiner (answer, pp. 4-6) that one skilled in the art would have considered the uppermost surface of the inwardly extending B (pi) shaped contoured portion shown in Figure 7H of Balz to be one flexible side of the opening (e.g., component receiving opening 30b shown in Figure 4) is not reasonable. As stated above, we believe that one skilled in the art would have recognized Balz's component receiving opening 30b shown in Figure 4 as having four sides, not thirty-six sides if one would to use the examiner's rationale. Moreover, the uppermost surface of the inwardly extending B (pi) shaped contoured portion of Balz does not have a length approximately equal to that length of the slot/oval opening defined thereby as clearly depicted in Figure 7H.

For the reasons set forth above, the decision of the examiner to reject claim 21, and claims 23 to 30 dependent thereon, under 35 U.S.C. § 103 is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 21 and 23 to 30 under 35 U.S.C. § 103 is reversed.

REVERSED

CHARLES E. FRANKFORT
Administrative Patent Judge

LAWRENCE J. STAAB
Administrative Patent Judge

JEFFREY V. NASE
Administrative Patent Judge

)
)
)
)
)
) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES
)
)
)
)
)

Appeal No. 2002-0116
Application No. 09/457,730

Page 10

FREDERICK W. GIBB, III
MCGINN & GIBB, PLLC
2568-A RIVA ROAD
SUITE 304
ANNAPOLIS, MD 21401

Appeal No. 2002-0116
Application No. 09/457,730

Page 11

JVN/jg